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Attorney Docket No. A0059-US-NP

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Robert M. Coleman

Application No : 10/024,726

Filed: December 21, 2001

For: PRINTING SYSTEM AND METHOD

Group Art Unit: 2624

Examiner: Dillon J Murphy

Confirmation No : 5950

Mail Stop: Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

LETTER

Enclosed herewith is an original Appellant's Brief on Appeal in the above-identified application. An oral hearing is not requested.

Please charge the fee for filing of the Appeal Brief to Xerox Corporation, Deposit Account No. 24-0025.

No additional fee is believed to be required; however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation, Deposit Account No. 24-0025.

Respectfully submitted,

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Date June 6, 2006

Customer No.: 25453

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Robert M. Coleman

Application No.: 10/024,726

Filed: 12/21/2001

For: **PRINTING SYSTEM AND METHOD**

Confirmation No.: 5950

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Docket No.: A0059-US-NP

BRIEF ON APPEAL

Appeal from Group 2624

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A. Claims 1-4, 8, 9, and 12-14 are patentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021) and Dermer (U.S. Patent No. 5,668,931). 8

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b. "Vivid color" is not a printer-independent print-quality characteristic; "vivid color" is an "HMS type color map", which is a printer-dependent process. 10

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B. Claims 5-7, 10 and 11 are patentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021) and Dermer (U.S. Patent No. 5,668,931) and Goertz et al. (U.S. Patent No. 6, 173,295). 12

1. Claims 5-7, 10 and 11 12

a. Goertz's print attribute information is not "printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved

during rendering without specifying any printer-specific imaging actions needed to achieve the feature". 12

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I. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is Xerox Corporation, by way of an Assignment recorded in the U.S. Patent and Trademark Office at Reel 12398, Frame 120-121.

II STATEMENT OF RELATED APPEALS AND INTERFERENCES

Following are identified any prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal:

1) Application No. 10/024,727 (Attorney Docket No. A0059Q-US-NP) on appeal.

2) Application No. 10,023,644 (Attorney Docket No. A0060-US-NP) Notice of allowance mailed 7-05-2005; issue fee payment received 07-22-2005; reverse issue fee 07-22-2005; abandonment for failure to pay issue fee 11-21-2005; issue fee payment received 12-13-2005; petition entered 12-13-2005.

3) Application No. 10/024,219 (Attorney Docket No. A0060Q-US-NP) on appeal.

Note that all cases have the same inventor; all cases were filed on the same day.

III. STATUS OF CLAIMS

Claims 1-14 are on appeal.

Claims 1-14 are pending.

Claims 1-14 are rejected.

IV. STATUS OF AMENDMENTS

No Amendment After Final Rejection has been filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention of Claim 1 is directed to a printing system 150, comprising: a printer 10; and a printer control device 30 for retrieving printer-independent print-quality characteristics 32 associated with image elements in a document to be printed by said printer and for associating printer-dependent imaging actions 34 with the printer-independent print-quality characteristics (patent application [hereinafter "pa"] page 17, lines 26-30 and Figure 3). A printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature (pa page 7, lines 17-21) Printer-dependent imaging actions associated with the printer-independent print-quality characteristic comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering (pa page 10, lines 21-25). Dependent claim 2 is directed to the printing system of claim 1 and further including a user interface 36 having a control 44, 46 for associating printer-independent print-quality characteristics with printer-dependent imaging actions (pa page 18, lines 9-13).

The invention of claim 8 is directed to a method for controlling the quality of printing (pa page 19, line 6), comprising: providing a list of printer-dependent imaging actions 48 (pa page 18, lines 9-13 and Figure 5); providing a list of printer-independent print-quality characteristics 42 (pa page 20, lines 2-3), wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature (pa page 7, lines 17-21); selecting a printer-independent print-quality characteristic from the list of printer-independent print-quality characteristics; and associating at least one printer-dependent imaging action with the selected printer-independent print-quality characteristic (pa page 18, lines 9-13), wherein printer-dependent imaging actions associated with the printer-independent print-quality characteristic comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering (pa page 10, lines 21-25).

The invention of Claim 13 is directed to the system of Claim 1, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce

mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail" (pa page 7, lines 21-25).

The invention of Claim 14 is directed to the method of Claim 8, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail" (pa page 7, lines 21-25).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

1) Claims 1-4, 8, 9, and 12-14 were rejected as having been unpatentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021) and Dermer (U.S. Patent No. 5,668,931).

2) Claims 5-7, 10 and 11 were rejected as having been unpatentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021) and Dermer (U.S. Patent No. 5,668,931) and Goertz et al. (U.S. Patent No. 6, 173,295).

VII. ARGUMENT

Appellant's invention enables the non-expert user to specify how his print job is to be output without having a detailed knowledge or understanding of how a particular printer achieves a particular output effect. Appellant's invention achieves this through the use of printer-independent print quality characteristics (or features). A printer-independent print-quality characteristic is an instruction associated with an image element, such as object type, in an electronic page, which indicates printer-independent features that are preferentially emphasized when printing the element. Examples of printer-independent print quality characteristics include "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors" and "compress without loss of detail". A printer-independent print-quality characteristic is an instruction that is understandable to a user, but not to a printer. A printer-independent print-quality characteristic is a characteristic that even the most inexpert user can understand and use to achieve the type of output that he desires. When a user specifies that a particular object or image element is to have "sharp edges", the user doe not have to know how a particular printer will achieve this result. A user could care less which halftone screen is used; the user only cares that his output element has "sharp edges".

A. Claims 1-4, 8, 9, and 12-14 are patentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021) and Dermer (U.S. Patent No. 5,668,931).

1. Claims 1-4, 8, 9, and 12

U.S. Patent 5,704,021 to Smith et al., "Adaptive Color Rendering By an Inkjet Printer Based on Object Type," describes a method of using a printer system for identifying one or more different types of color objects in a document, selecting a preferred rendering option such as halftoning and/or color matching for each one of such different color object types, respectively, and then printing the document in accordance with the rendering options selected for each of such different color object types. U.S. Patent 5,668,931 to Dermer, "Method for Automatic Trap Selection for Correcting For Plate Misregistration in Color Printing," describes a method for automatic compensation for misregistration of printing plates in printing of polychromatic document pages or images, in which a trapping image is superposed upon the structured graphic

image representing the layout of the document page or image from which it was derived, so as to prevent light leaks and other errors at the boundaries between color regions with the image.

a. "Halftoning and/or color matching" as defined in Smith et al. are printer-dependent processes.

In Smith et al., the user who wishes to manually set the printer options for his document is presented with the ability to select automatic color or manual color. Under the manual color options shown in Fig. 5 of Smith et al. the user can select under "Print Color Control" any of "vivid color 82", "match screen 83" and "no adjustment 84" and assign his selection to text 85, graphics 86 or photo 87. Under "Halftoning", the use can select any of "cluster 91", "pattern 92" and "scatter 93" and assign his selection to text 85, graphics 86 or photo 87. The user can also vary the lightness of the entire document in box 96. Each of these selections is a printer-dependent process and has associated with it the appropriate map to achieve the specified result. Other than "match screen" and "no adjustment", each of these selections would have little meaning to an inexperienced user.

Each halftone screen (cluster, pattern or scatter) is specific to that printer. Each color control: ("vivid color", "match screen" and "no adjustment") is a specific process (color map) for that printer. When a user makes a selection from the controls shown on Fig. 5 of Smith et al., the user is selecting the particular printer-dependent print process to use.

If a user wanted to "indicate a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature", such as for example "make sharp edges", using Smith et al., first, the user could not because no such option exists in Smith et al. If a user wanted to try to simulate "make sharp edges" for a particular graphic in Smith et al., the user would have to know (or guess through trial and error) which, if any, halftoning screen (cluster, pattern or scatter) would achieve that result. Similarly, if a user wanted to "indicate a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature", such as "reduce moiré", the user would not know/guess if "vivid color" or "match screen" or "no adjustment" would achieve that result Smith et al. provides no such option for "indicating any feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature".

Specifying a halftone screen (or other category specified in Smith et al.) is tantamount to specify a tool of the printer to achieve a particular halftone result. Specifying a halftone screen is not the same as "indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature".

b. "Vivid color" is not a printer-independent print-quality characteristic; "vivid color" is an "HMS type color map", which is a printer-dependent process.

The Examiner argues that Smith et al. teaches "vivid color", which in the Examiner's opinion is a printer-independent print-quality characteristic. Appellant disagrees.

According to Smith et al. at col. 8, lines 17-20: "HMS type color map" 82 (Fig. 9) -- this is a color-correction relationship used to boost the vibrancy of the hue associated with an input or given RGB value, as indicated by the designation "Vivid Color" in Figs. 6-9. HMS or Harlequin Micro Screening is a screening method that uses a Respi screen structure to allow greater highlight gradation, even at high screen rulings (see www.screen.co.jp/ga_dtp/product_e/HQ-510RIP/202-151.pdf; An HMS type color map is a specialty screen which an inexperienced user would hardly be likely to understand or comprehend. Further, Smith et al. makes use of well-known commercially available specifications, meaning Pantone Color (see col. 6, lines 48-52), which perhaps an expert user would understand, but not the inexperienced user

Although "vivid color" sound like something that might be a printer-independent print-quality characteristic, based on a reading of Smith et al., "vivid color" clearly is not. "Vivid color" is a short hand designation for a particular color map that would be of interest to the experienced user, in the same way that specifying a scatter, cluster or pattern halftone screen would be of interest to the same experienced user.

c "Specifying trapping parameters is not "indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature".

The Examiner asserts that it "is well known in the art that performing trapping on an image in a PDL is in a device independent format, therefore trapping is a printer-independent print quality characteristic" but provides no support. Trapping is required in multi-pass print jobs: print jobs where each page is printed separately for each color on the page. Printing the cyan elements, for example, on a page that had first been printed magenta, may result in misregistration between some of the image elements – at the border where cyan and magenta images overlap. Appellant believes that the printer-independent print quality characteristic, i.e., the "feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature" in this instance would be "preserve edges between images of different colors" or "distinguish neighboring colors". And, indeed, the printing system might associate "preserve edges between images of different colors" or "distinguish neighboring colors" with a trapping algorithm to achieve the desired result.

d. Combining the printing system of Smith et al. with the trap selection method of Dermer does not produce Appellant's printing system.

Combining the trapping selection method of Dermer with Smith et al. does not produce Appellant's system which enables a user to specify printer-independent print-quality characteristic comprising instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature.

2 Claims 13 and 14

Nothing in Smith et al. or Dermer teaches or suggests, printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature, such as "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail" as claimed by Appellant.

B. Claims 5-7, 10 and 11 are patentable under 35 U.S.C. §103(a) over Smith et al. (U.S. Patent No. 5,704,021) and Demmer (U.S. Patent No. 5,668,931) and Goertz et al. (U.S. Patent No. 6, 173,295).

1. Claims 5-7, 10 and 11

U.S. Patent No. 6,173,295, to Goertz et al., Method, System and Program for Creating a Job Ticket Including Information on Components and Print Attributes of a Print Job, is directed to job ticket creation. While it is believed that Goertz was cited for disclosing third, fourth and fifth controls in a user interface, the Examiner stated, without demonstrating, that Goertz et al. "discloses a printing system with control for saving a set of associations between printer-independent print quality characteristics and printer-dependent imaging actions (citing Goertz et al. figure 8, submenu 80 providing control for saving a job ticket, wherein the job ticket stores print attribute information and location of print files, col. 5, lines 41-43).

a Goertz's print attribute information is not "printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature".

According to Goertz et al, at col. 6, lines 35-41: "the job ticket 40 stores print attribute information, such as information on the layout of the printed page, the printer selected, the alignment of the page, and the look of the page, for each element included in the job ticket 40. As used herein, the term "element" means any of the document records 44, 46, part records 48,50 and item records 52,52 included in the job ticket 40."

In Figures 7a and 7b, Goertz et al. gives an example of the "look" attribute available for selection by the user: output appearance, RIP for, screen frequency. User selectable options include such printer-dependent characteristics as "user server default, standard, highlight midtones and dark." See also Table 7, behavior of look attribute.

VIII. CONCLUSION

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that Claims 1-14 are in condition for allowance. For all of the above reasons, Appellant respectfully requests this Honorable Board to reverse the rejections of Claims 1-14

Respectfully submitted,

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CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. (Previously Presented) A printing system, comprising:

a printer; and

a printer control device for retrieving printer-independent print-quality characteristics associated with image elements in a document to be printed by said printer and for associating printer-dependent imaging actions with the printer-independent print-quality characteristics;

wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer-specific imaging actions needed to achieve the feature; and

wherein printer-dependent imaging actions associated with the printer-independent print-quality characteristic comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering.

2. (Original) The printing system of claim 1, further comprising a user interface having a control for associating printer-independent print-quality characteristics with printer-dependent imaging actions.

3. (Original) The printing system of claim 1, further comprising a user interface having a first control for invoking an option of automatically associating printer-independent print-quality characteristics with printer-dependent imaging actions in accordance with a set of predetermined associations and a second control for manually associating printer-independent print-quality characteristics with printer-dependent imaging actions

4. (Original) The printing system of claim 3, further comprising a third control for defining a custom printer-independent print-quality characteristic and for associating printer-dependent imaging actions with said custom printer-independent print-quality characteristic

5. (Original) The printing system of claim 3, further comprising a third control for saving a set of associations.

6. (Original) The printing system of claim 5, further comprising a fourth control for loading said saved set of associations.

7. (Original) The printing system of claim 5, further comprising a fifth control for selecting a default configuration of associations.

8. (Previously Presented) A method for controlling the quality of printing, comprising:

providing a list of printer-dependent imaging actions;

providing a list of printer-independent print quality characteristics, wherein a printer-independent print-quality characteristic comprises instructions for indicating a feature of an image element that is to be preserved during rendering without specifying any printer specific imaging actions needed to achieve the feature;

selecting a printer-independent print-quality characteristic from the list of printer-independent print-quality characteristics; and

associating at least one printer-dependent imaging action with the selected printer-independent print-quality characteristic, wherein printer-dependent imaging actions associated with the printer-independent print-quality characteristic comprise specific imaging actions taken by the printer to achieve the feature of the image element to be preserved during rendering

9. (Original) The method of claim 8, further comprising:

defining a custom printer-independent print-quality characteristic;

adding the custom printer-independent print-quality characteristic to the list of printer-independent print-quality characteristics; and

associating at least one printer-dependent imaging action with said custom printer-independent print-quality characteristic.

10. (Original) The method of claim 8, further comprising saving a selected configuration of associations.

11. (Original) The method of claim 10, further comprising loading a saved selected configuration of associations.

12. (Original) The method of claim 8, further comprising providing a default configuration of associations.

13. (Previously Presented) The system of claim 1, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail".

14. (Previously Presented) The method of claim 8, wherein the printer-independent print-quality characteristics comprise at least one of "make sharp edges", "reduce mottle", "distinguish neighboring colors", "reduce moiré", "distinguish tone and edges", "maximum tone depth", "perceptual colors", "contour", "no abutting corners", "increase moiré", "uniform gloss", "distinctness" and "compress without loss of detail"

EVIDENCE APPENDIX

NONE

RELATED PROCEEDINGS APPENDIX

NONE